CLAIMS

1) A protein or fragment thereof comprising the sequence of SEQ ID No. 1, or a functional equivalent thereof.

2) A protein or fragment thereof according to claim 1 which regulates the activity of a protein product of a gene in the Notch gene family.

3) A protein or fragment thereof according to claim 2 which regulates the activity of Notch 1.

4) A protein or fragment thereof according to either of claims 2 or 3 wherein the Notch gene is mammalian, preferably human.

5) A protein or fragment thereof according to any preceding claim which has been altered by deletion, insertion, substitution, or mutation of one or more amino acids.

6) A protein or fragment thereof according to any preceding claim which is recombinant.

7) A protein or fragment thereof according to any preceding claim that binds specifically to a member of the Notch protein family, preferably to Notch 1.

8) A protein or fragment thereof according to any preceding claim that is associated with an enzyme effector or reporter molecule.

9) A protein or fragment thereof according to claim 8 that is associated with a protease enzyme.

10) A protein or fragment thereof according to any preceding claim that is genetically or chemically fused to one or more peptides or polypeptides.

11) A protein or fragment thereof according to any preceding claim attached to a label.

12) A therapeutic or diagnostic composition comprising a protein or fragment thereof according to any preceding claim.

13) A protein or fragment thereof according to any preceding claim or composition according to claim 12 for use in therapy.

14) A protein or fragment thereof according to any preceding claim which for use as a pharmaceutical.

15) Use of a protein or fragment thereof according to any preceding claim as a pharmaceutical.

16) The use of a protein or fragment thereof according to any of claims 1-11 in the manufacture of a medicament for the treatment or prevention of cancer, or of a neurodegenerative disease.

17) A process for the identification of a compound capable of modifying the levels of expression or activity of a Notch protein comprising screening a Notchless mutant in a sensitised Notch genetic background with a candidate compound and selecting for an altered phenotype of the Notchless mutant.

18) A compound identified by the process of claim 17.

19) A nucleic acid sequence comprising:

a) the sequence of SEQ ID No 2, or

b) a sequence that encodes on expression the amino acid sequence encoded by the sequence of part a), or

c) a fragment of the DNA sequence of part a) or part b) that comprises a nucleotide sequence that encodes the Notch binding domain.

20) The nucleic acid molecule of claim 19 which comprises DNA, cDNA or RNA.

21) A probe capable of screening for the Notchless gene, prepared from the nucleic acid sequence of claim 19.

22) A cloning or expression vector comprising a nucleic acid molecule according to any one of claims 19-21.

23) A host cell transformed or transfected with a nucleic acid according to any of claims 19-21 of with a vector according to claim 22.

24) A transgenic animal that has been transformed with a nucleic acid molecule according to any one of claims 19-21 or with a vector according to claim 22.

25) A method of preparing a protein or fragment thereof according to any of claims 1-11, comprising expressing a vector according to claim 22 in a host cell and culturing said host cell under conditions where said protein is expressed, and recovering said protein thus expressed.

Sequence I.D. No. 1: Drosophila Notchless protein

MQETDTEQEATPHTIQARLVYTGEEAGPPIDLPAGITTQQLGLICNALLKNEEAT
PYLFFVGEDEIKSLEDTLDLASVDTENVIDIVYQPQAVFKVRPVTRCTSSMPGHA
EAVVSLNFSPDGAHLASGSGDTTVRLWDLNTETPHFTCTGHKQWVLCVSWAP
DGKRLASGCKAGSIIIWDPETGQQKGRPLSGHKKHINCLAWEPYHRDPECRKL
ASASGDGDCRIWDVKLGQCLMNIAGHTNAVTAVRWGGAGLIYTSSKDRTVK
MWRAADGILCRTFSGHAHWVNNIALSTDYVLRTGPFHPVKDRSKSHLSLSTEE
LQESALKRYQAVCPDEVESLVSCSDDNTLYLWRNNQNKCVERMTGHQNVVN
DVKYSPDVKLIASASFDKSVRLWRASDGQYMATFRGHVQAVYTVAWSADSRL
IVSGSKDSTLKVWSVQTKKLAQELPGHADEVFGVDWAPDGSRVASGGKDKVI
KLWAY

Sequence I.D. No. 2: Drosophila *Nle* cDNA

aattcccaaaaaATGCAGGAGACGGACACGGAGCAAGAGGCCACGCCACATACGA
TACAGGCGCGCCTCGTTTACACGGGCGAGGAAGCCGGCCCGCCAATCGACC
TGCCGGCAGGAATCACTACCCAGCAATTGGGACTGATTTGCAACGCGCTGC
TGAAAAACGAGGAAGCCACTCCATATTTGTTTTTCGTGGGCGAGGATGAGA
TCAAGAAGAGCCTGGAGGACACGTTGGACTTGGCGTCAGTGGACACCGAAA
ACGTGATCGATATTGTGTATCAGCCACAGGCGGTTTTCAAAGTGCGCCCAGT
GACAAGATGCACGAGTTCCATGCCGGGACACGCCGAGGCTGTGGTTTCGCT
GAATTTCAGCCCGGATGGTGCTCATCTCGCCAGTGGAAGTGGCGACACCAC
AGTGCGATTGTGGGATCTTAACACAGAGACACCGCACTTCACCTGCACAGG
TCATAAGCAGTGGGTTCTGTGCGTATCCTGGGCTCCGGATGGCAAACGGTTG
GCCAGCGGTTGCAAAGCGGGCTCTATAATCATCTGGGACCCGGAGACGGGT
CAGCAGAAGGGGCGACCCTTGAGTGGGCACAAGAAACACATCAACTGCCTC
GCCTGGGAACCGTATCATCGCGATCCGGAGTGCAGGAAACTTGCTTCCGCC
AGTGGAGACGGGGACTGCCGGATTTGGGACGTAAAATTGGGCCAGTGCCTT

ATGAACATTGCCGGACACACAAATGCTGTGACAGCAGTGAGATGGGGTGGAGCGGGCCTTATTTATACATCCTCCAAAGATCGCACAGTGAAGATGTGGCGAGCAGCTGATGGAATCTTGTGCCGGACGTTCTCTGGCCAAGCTCACTGGGTAAACAACATTGCGCTGAGCACCGATTACGTCCTGCGCACTGGTCCATTCCATCCGGTGAAGGATCGCTCCAAGAGCCACCTCAGTTTGAGCACTGAGGAATTGCAGGAATCTGCCTTGAAGCGCTACCAGGCCGTGTGCCCTGACGAGGTGGAGTCGCTGGTTTCCTGTTCGGATGACAACACCCTCTATCTGTGGCGGAACAACCAGAACAAGTGCGTTGAGCGCATGACAGGGCACCAGAACGTGGTCAACGATGTGAAATATTCGCCGGATGTAAAGCTAATTGCGTCTGCTTCATTTGACAAGTCAGTGCGTCTGTGGCGAGCCAGCGATGGTCAGTACATGGCCACCTTCCGGGGTCATGTGCAGGCTGTTTACACGGTTGCCTGGTCCGCGGACTCCCGCTTGATTGTTTCCGGCAGCAAAGACTCAACTCTAAAAGTATGGAGTGTGCAGACGAAGAAACTGGCACAGGAGCTGCCTGGACATGCGGATGAGGTGTTCGGAGTGGACTGGGCGCCCGATGGCTCTAGAGTTGCCTCTGGTGGCAAGGACAAAGTTATAAAGCTATGGGCTTATTAAcaaatcattaacttgtacacggtaagaaaatacttaggaataaagtaaaacgtcctgagtaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa